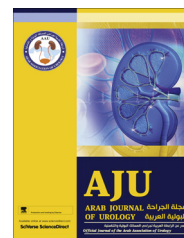




Arab Journal of Urology
(Official Journal of the Arab Association of Urology)

www.sciencedirect.com



SEXUAL DYSFUNCTION/FEMALE UROLOGY
REVIEW

The management of genitourinary fistula in the third millennium



Gamal M. Ghoniem ^{a,*}, Hussein A. Warda ^b

^a Division of Female Urology, UC Irvine Health, School of Medicine, Irvine, CA, USA

^b Hurley Medical Center, Michigan State University, Flint, MI, USA

Received 3 May 2013, Received in revised form 8 November 2013, Accepted 13 November 2013

Available online 15 March 2014

KEYWORDS

Vesicovaginal fistula;
Presentation;
Diagnosis;
Evaluation;
Management

ABBREVIATIONS

VVF, vesicovaginal
fistula;
UVF, ureterovaginal
fistula;
LESS, laparo-endo-
scopic single-site
surgery

Abstract Background: A vesicovaginal fistula (VVF) is an abnormal fistulous tract between the bladder and vagina, causing continuous loss of urine via the vagina. VVF is a relatively uncommon condition, but there is a drastically higher prevalence in the developing world. Furthermore, iatrogenic postoperative VVF is most common in developed countries, compared to mainly obstetric trauma in developing countries. In this review we focus on the development of current management techniques for VVF.

Methods: Medline was searched to identify articles related to urogenital fistulae, including VVF. Based on these reports we focus on the aetiology, clinical presentation, diagnosis and management of VVF. This in-depth review includes the optimal surgical timing, different surgical approaches (including minimally invasive techniques such as laparoscopic and robotic surgery), recommendations for postoperative care, surgical complications, and the need for further research in the use of robotic surgery to treat this condition.

Results: In all, 60 articles were identified and included in this review; eight were related to the aetiology, 12 to diagnosis, and 40 to the management of VVF.

* Corresponding author. Address: Chief Division of Female Urology, Pelvic Reconstructive Surgery and Voiding Dysfunction, University of California Irvine, CA, USA. Tel.: +1 714 456 6357; fax: +1 714 456 5342.

E-mail address: gghoniem@uci.edu (G.M. Ghoniem).

Peer review under responsibility of Arab Association of Urology.



Production and hosting by Elsevier

A thorough evaluation of VVF is imperative for planning the repair. Although the surgeon's experience typically influences the surgical approach, special situations will dictate the best approach.

Conclusion: The treatment of genitourinary fistulae with robotic assistance continues to develop, but further research is necessary to fully understand the use of this technology.

© 2014 Production and hosting by Elsevier B.V. on behalf of Arab Association of Urology.

Introduction

History

A vesicovaginal fistula (VVF) is a debilitating condition that has affected women for millennia, the first recorded reference of VVF being in 1550 BCE. In 1037, Avicenna first documented the relationship between VVF and obstructed labour, or traumatic delivery [1]. In 1923 the earliest case of VVF in a mummified body (2050 BCE) was described [2].

In 1845, a series of experimental operations on slaves was conducted in Montgomery, Alabama, USA. Based on these experiments, James Marion Sims established the foundations of VVF repair in 1852 and included: (1) Proper exposure with the knee-chest position; (2) The use of a weighted vaginal retractor; (3) The use of silver-wire sutures; (4) Tension-free closure of the defect; (5) Proper postoperative bladder drainage.

Definition and epidemiology

VVFs are epithelialised or fibrous communications between the bladder and vagina, and are relatively uncommon. Nonetheless, this is one of the most socially devastating conditions. Developing countries have a drastically higher prevalence of VVF than have developed nations [2]. Although the true incidence of VVF is unknown, it is estimated at 0.3–2% in developed countries [3]. The leading cause of VVF is iatrogenic, after surgery, in 81–91% of patients [1]. In developing countries such as Nigeria, the WHO has estimated that as of 2001, 800,000–1 million women have an unrepaired VVF. Prolonged or obstructed labour is the most prevalent cause of VVF in the large majority of developing countries (97%).

The aetiology of adult VVF

The aetiology of VVF varies geographically. In developed countries, a VVF is most commonly a result of gynaecological surgery, radiotherapy, injury during the healing process, or severe pelvic pathology. Conversely, in developing countries VVF is most commonly related to childbirth.

Iatrogenic (after surgery)

Despite the best efforts of surgeons, injury to the urinary tract occurs during the healing process after pelvic surgery or pelvic irradiation. In this scenario, VVF occurs in 81–91% of patients in developed countries in the form of:

- (1) Tissue necrosis after tissue ischaemia, attributed to external pressure (crush/clamp injury), kinking of urinary tract tissue (proximity to a ligated pedicle), or marked inflammation and tissue fibrosis [4].
- (2) Direct laceration or puncture injury to the urinary tract resulting in immediate urine leakage. Delayed injury from retroperitoneal fibrosis, tissue pressure, or partial obstruction might manifest as fistula formation and urine leakage after many days or even weeks [5].
- (3) Pelvic radiotherapy for malignancy has a 5% incidence of VVF formation, even after many years. Small-vessel endarteritis obliterans is the ongoing process associated with radiotherapy-related fistula, occurring years after initial radiotherapy [6]. It is hypothesised that the decreased blood supply as a result of radiotherapy leads to tissue necrosis, sloughing, and fistula formation. In all these scenarios, concurrent infection can exacerbate the problem.

Hysterectomy is the most common surgical procedure resulting in VVF formation in developed countries, with an 80% incidence [7]. Other gynaecological procedures account for up to 11% [8]. However, the incidence varies depending on the approach. The lowest is with transvaginal (0.2:1000), followed by transabdominal (1:1000), and laparoscopic procedures (2.2:1000). VVFs most commonly form above the trigone, at the level of the vaginal cuff [9].

Non-iatrogenic (obstetric)

Obstetric trauma is primarily responsible for the 98% urogenital fistula rate in sub-Saharan African nations such as Nigeria. This is primarily due to the shortage of medical care, wherein one physician will serve up to 200,000 individuals [10,11].

In Western countries, obstructed labour represents only 5% of all VVFs. Pelvic tumour and trauma,

Download English Version:

<https://daneshyari.com/en/article/4268100>

Download Persian Version:

<https://daneshyari.com/article/4268100>

[Daneshyari.com](https://daneshyari.com)